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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/873,418	06/05/2001	Herbert Benson Scher	RIA 57700	5799
26748	7590	03/23/2004	EXAMINER	
SYNGENTA CROP PROTECTION, INC. PATENT AND TRADEMARK DEPARTMENT 410 SWING ROAD GREENSBORO, NC 27409			FUBARA, BLESSING M	
			ART UNIT	PAPER NUMBER
			1615	

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/873,418

Applicant(s)

SCHER ET AL.

Examiner

Blessing M. Fubara

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 16-26 is/are rejected.
- 7) ☒ Claim(s) 8-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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### DETAILED ACTION

Examiner acknowledges receipt of request for extension of time, amendment and remarks, all filed 12/15/03.

#### *Claim Rejections - 35 USC § 102*

1. Claims 1-4 and 16-26 remain rejected under 35 U.S.C. 102(a) as being anticipated by Van Koppenhagen et al. (WO 00/05951).

Applicants argue that Van Koppenhagen does not disclose a surface modifying compound that has un-reacted surface modifying groups that correspond to -Z of the instant claims and that it was incorrect for the Examiner to "equate the groups capable of esterification in Van Koppenhagen with the groups -Z of the present application," and while applicants concede that Van Koppenhagen discloses ester moiety, formula (I) that has a reactive group that corresponds to -X, applicants also state that Van Koppenhagen does not have a disclosure that points to the presence of un-reacted -Z group that is capable of modifying the surface properties of the microcapsule wall.

2. Applicants' arguments filed 12/15/03 have been fully considered but they are not persuasive.

Examiner thanks applicants for conceding that Van Koppenhagen discloses an ester moiety with groups that correspond to -X. It is respectfully pointed out that glycolate and diglycolate are molecules that have carboxylate functionality and these carboxylate and glycolate molecule meet the limitation of -Z of the instant claim. Specifically, formula (I) in Van Koppenhagen is the cross-linking agent and comprises a core where the core is derived from a multifunctional alcohol that has at least two, and preferably at least three functional groups

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capable of esterification; examples of these functional groups are pentaerythritol, trimethylolpropane and glycerol (at page 6, second full paragraph). There are at least two and preferably three functional groups in the core and XH is -SH. AT page 7, fifth full paragraph, Van Koppenhagen discloses that cross-linking agents are esters having one or more thioester groups, which are cleaved under basic environment and because the cross-linking agents are part of the shell, their cleavage modifies the wall. Because the carboxylate is disclosed, that disclosure meets the limitations of the instant microcapsule. Secondly, since the carboxylate meets the limitations for one of the -Z's recited, the carboxylate -Z group would inherently interact with the surface properties of the microcapsule wall. The rejection over Van Koppenhagen is reiterated below.

Van Koppenhagen discloses microencapsulated compositions containing active agents that are encapsulated within a polymeric wall such as an aminoplast shell wall, the shell wall contains an ester containing cross-linking unit (page 1, paragraph 1) and amino resin prepolymer that is reacted with molecules such as pentaerythritol, dipentaerythritol, tripentaerythritol, trimethylolpropane, glycerol, mercaptoethanol and 2-(hydroxy or thiol) substituted C<sub>2</sub>-C<sub>6</sub> alkanolic acid (page 3, 3<sup>rd</sup> full paragraph to page 4, paragraph 2). Derivatives of pentaerythritol such as glycolate or diglycolate are used in Van Koppenhagen (pages 10-13). Glycolate or diglycolate meets the limitation of carboxylate in claim 4. Van Koppenhagen in example 1 prepares the cross-linkers and in examples 2-17 prepares the microcapsules. Van Koppenhagen prepares the microcapsules by encapsulating pesticide within the aminoplast polymeric wall formed by interfacial polymerization and condensation of a mixture of butylated

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urea-formaldehyde pre-polymer and cross-linking agent that contains sulfhydryl and/or hydroxyl groups (example 2). The teachings of Van Koppenhagen meet the limitations of the claims.

3. Claims 1-7 and 16-26 remain rejected under 35 U.S.C. 102(b) as being anticipated by Scher et al. (US 5,160,529).

Applicants traverse this rejection on the grounds that although Scher discloses an ester group that contains –SH reactive groups that is equivalent to –X of the instant claims, Scher does not have a disclosure that has an un-reacted group that is equivalent to –Z.

4. Applicants' arguments filed 12/15/03 have been fully considered but they are not persuasive.

The tetrathiol ester, a pentaerythritol tetrakis (mercaptopropionate) has the –SH group and the carboxylate group. The carboxylate should be capable of reacting and in the reaction process modify the wall. Thus Scher discloses polymer resin that contains surface modifying compound. The rejection over Scher is reiterated below.

Scher discloses microcapsules that contain within the core of the microcapsule an anilide herbicide and optionally herbicide antidote and the core, which comprises herbicides or insecticides or defoliants or insect repellants or fungicides, is enclosed within a porous shell (abstract, column 3, line 11 to column 7 line 45). The porous shell is made of partially etherified amino resin, which is prepared by known techniques (column 8, lines 41-65), commercially available pre-polymer can also be suitable in Scher (column 8, lines 36-40). The porous shell may also include optional additives (column 9, line 25 to column 10, line 11). The microcapsule in Scher is prepared by providing organic solution of the partially etherified amino resin pre-polymer in the herbicide or insecticide or fungicide liquid, creating an emulsion of said

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solution in continuous phase of aqueous solution that contains water and surface-active agent, and causing in situ self-condensation and curing of the amino resin pre-polymer in the organic phase and by adding acidifying agents to the emulsion in order to maintain the pH of the emulsion between at about 0 to about 4 for a sufficient period to allow the in situ self condensation of the pre-polymer to convert the liquid droplets of the organic solution to capsules (abstract and column 2, lines 35-62).

5. Claims 8-15 remain objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art, Scher and Koppenhagen do not disclose the surface-modifying agent having structure (IVA).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

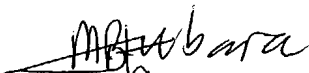
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blessing M. Fubara whose telephone number is (571) 242-0594. The examiner can normally be reached on 7 a.m. to 3:30 p.m. (Monday to Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Blessing Fubara  
Patent Examiner  
Tech. Center 1600